Water-Resources Reports Prepared by or in Cooperation with the U.S. Geological Survey, Kansas, 1886–1994

Compiled by DONNA J. ROBERTS and LANNA J. COMBS

U.S. GEOLOGICAL SURVEY Open-File Report 95–120



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U.S. DEPARTMENT OF THE INTERIOR BRUCE BABBITT, Secretary

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FIGURE

CONVERSION FACTORS

Multiply	Ву	To obtain
inch	2.54	centimeter
mile	1.609	kilometer

Water-Resources Reports Prepared by or in Cooperation with the U.S. Geological Survey, Kansas, 1886–1994

Compiled by Donna J. Roberts and Lanna J. Combs

INTRODUCTION

The Organic Act of March 3, 1879, established the U.S. Geological Survey as a separate Bureau of the Department of the Interior. The Survey's principal mission became (1) the classification and survey of public lands, (2) the examination of the geologic structure and the mineral resources of the national domain, and (3) the determination of the water resources of the United States. Seven years later, in 1886, the first water-resources investigation by the U.S. Geological Survey in Kansas was completed by A.C. Peale.

From this early beginning, the Water Resources Division of the U.S. Geological Survey has met the growing demand for scientific data by Federal, State, and local agencies for use in the planning and management of one of the most precious resources of Kansas—water. The Kansas District of the Water Resources Division, with headquarters in Lawrence and field offices in Lawrence, Garden City, and Wichita (fig. 1), continues to investigate the occurrence, quantity, quality, distribution, and movement of surface and ground waters. Its activities still include the systematic collection, analysis, and interpretation of hydrologic data; the investigation of water demand for public supply, industrial, domestic, and agricultural purposes; and the research and development of new techniques to improve the scientific basis of water data collection and investigative principles.

Moneys for program operation of the U.S. Geological Survey in Kansas have come from joint-funding agreements with State and local agencies, transfer of funds from other Federal agencies, and direct Federal allotments to the U.S. Geological Survey.

Water-resources data and the results of hydrologic investigations in Kansas are published or released either by the U.S. Geological Survey, by cooperating agencies, or by journals of technical and scientific organizations. Requests for publications resulting from investigations of the U.S. Geological Survey in Kansas should be addressed to:

District Chief U.S. Geological Survey Water Resources Division 4821 Quail Crest Place Lawrence, Kansas 66049 Telephone: (913) 842-9909

Book reports or maps that are out of print [as indicated by an asterisk (*) in the accompanying lists] can no longer be purchased from any official source but may be consulted at many public- or educational-institution libraries throughout the country and at USGS offices.

PURPOSE

The purpose of this bibliography is to help locate the more than 1,000 reports and abstracts prepared by or in cooperation with the U.S. Geological Survey in Kansas and published during the period of 1886 to 1994. The bibliography is formatted to make location of publications possible without having a complete reference. The complete reference is listed only in the "Alphabetical Listing by Author" section. The other sections of the report have enough information for the reader to refer back to the "Alphabetical Listing by Author" section for the complete reference. The bibliography is divided into five sections:

(1) Alphabetical Listing by Author, (2) Listing by Publication Series, (3) Listing by Year of Publication, (4) Geographic Index, and (5) Subject Index.

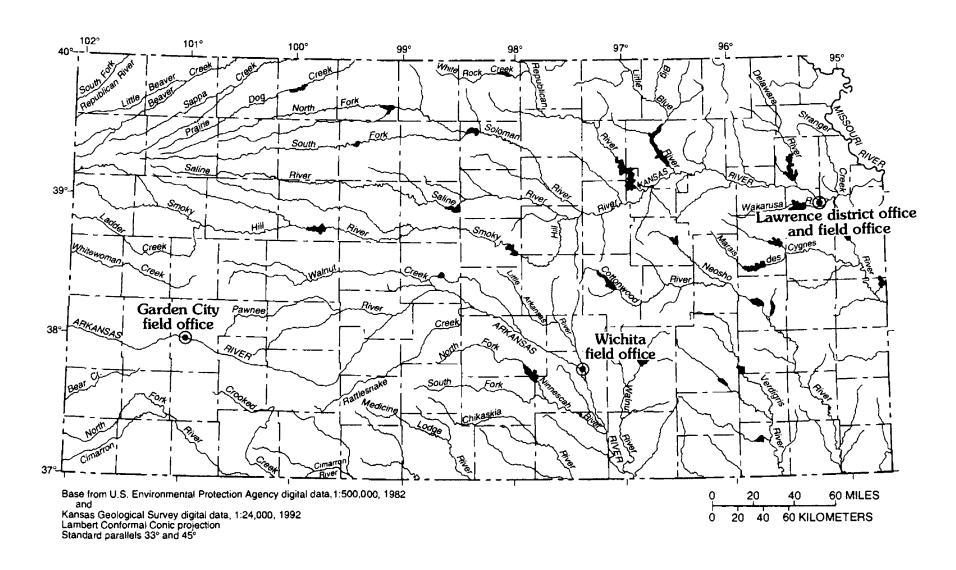


Figure 1. Location of offices of the U.S. Geological Survey in Kansas.

ALPHABETICAL LISTING BY AUTHOR

This index is used when you know the name of a publication's author. The index is arranged alphabetically by the author's last name and initials, and then chronologically by publication year. For author listings with more than one publication in a given year, the letters "a," "b," "c," and so forth are added after the year.

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LISTING BY PUBLICATION SERIES

This index is used when the publication series is known. Entries are by the agency (U.S. Geological Survey, Kansas Geological Survey, Kansas Water Office, and so forth), then by publication series (bulletin, open-file report, circular, and so forth). After you have located the agency and type of publication, citations are listed numerically by report number. Journal of research, progress reports, scientific journal articles, and master's theses are listed alphabetically by the author's last name and initials.

U.S.Geological Survey

Annual Reports

This section lists technical papers that concern Kansas water resources and were included in the U.S. Geological Survey's Annual Reports. Beginning with the 23rd annual report (1901–02), these reports contained no technical papers, but separate publication continued until 1933. Since 1933, a condensed form has has been included in the annual report of the Secretary of the Interior.

- *14. Natural mineral waters of the United States, by A.C. Peale, 1894: Part II-B, p. 49-88.
- *16. Water resources of a portion of the Great Plains, by Robert Hay, 1895: Part II, p. 535-588.
- *18. Report of progress of stream measurements for the calendar year 1896, by A.P. Davis, 1897: Part IV, p. 1–418.
- *19. Report of progress of stream measurements for the calendar year 1897, by F.H. Newell, 1898: Part IV, p. 1-632.
- *20. Report of progress on stream measurements for the calendar year 1898, by F.H. Newell, 1899: Part IV, p. 1–562.
- *21. The High Plains and their utilization, by W.D. Johnson, 1901: Part IV-C, p. 743-768.
- *21. Report of progress of stream measurements for the calendar year 1899, by F.H. Newell, 1900: p. 9–488.
- *22. Report of progress of stream measurements for the calendar year 1900, by F.H. Newell, 1901: p. 9-506.
- *22. The High Plains and their utilization (conclusion), by W.D. Johnson, 1902: Part IV-C, p. 671-690.

Bulletins

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- U.S. Geological Survey bulletins contain significant data and interpretations that are of lasting scientific interest but generally are more limited in scope or geographic coverage than professional papers. They include the results of resource studies and of geologic and topographic investigations, as well as collections of short papers related to a specific topic.
- *32. Lists and analyses of the mineral springs of the United States (a preliminary study), by A.C. Peale, 1886: 235 p.
- *57. A geological reconnaissance in southwestern Kansas, by Robert Hay, 1890: 49 p.

- *131. Report of progress of the Division of Hydrography for 1893 and 1894, by F.H. Newell, 1895: 126 p.
- *154. A gazetteer of Kansas, by Henry Gannett, 1898: 246 p.
- *296. Economic geology of the Independence quadrangle, Kansas, by F.C. Schrader and Erasmus Haworth, 1906: 74 p.
- **1087-G.** Uranium content of ground and surface waters in a part of the central Great Plains, by E.R. Landis, 1960: p. 223-258.
- *1215. Geology of Shawnee County, Kansas, by W.D. Johnson, Jr., W.L. Adkison, and H.C. Wagner, 1967: 254 p.
- **1989–D.** Paleohydrology of the Central United States, by D.G. Jorgensen, 1993: 32 p.

Circulars

- U.S. Geological Survey circulars present technical or nontechnical information of wide popular interest in a format designed for distribution at no cost to the public. They are published to disseminate administrative information or important scientific information of an ephemeral nature.
- *273. Water resources of the Kansas City area, Missouri and Kansas, by V.C. Fishel, J.K. Searcy, and F.H. Rainwater, 1953: 52 p.
- 1120-E. Effects of reservoirs on flood discharges in the Kansas and the Missouri River Basins, 1993—Floods in the upper Mississippi River Basin, by C.A. Perry, 1994: 20 p.

Folios of the Geologic Atlases of the United States

Each folio is named from a city, town, or prominent natural feature within the quadrangle it covers. It includes maps showing the topography, geology, underground structure, and mineral deposits of the area and several pages of descriptive text and illustrations; also maps showing the economic geology, including oil and gas and artesian water, if the conditions in the area mapped warrant their publication. All the folios were published in a library edition, a form measuring 18 1/2 x 22 inches.

*109. Description of Cottonwood Falls quadrangle, Kansas, by C.S. Prosser and J.W. Beede, 1904: 6 p., 2 pls.

- *148. Description of the Joplin district, Missouri–Kansas, by W.S.T. Smith and C.E. Siebenthal, 1907: 20 p., 27 figs.
- *159. Description of the Independence quadrangle, Kansas, by F.C. Schrader, 1908: 7 p., 3 pls.
- *206. Description of the Leavenworth and Smithville quadrangles, Missouri–Kansas, by Henry Hinds and F.C. Greene, 1917: 13 p., 10 pls., 10 figs.
- *212. Description of the Syracuse and Lakin quadrangles, Kansas, by N.H. Darton, 1920: 10 p., 6 pls., 7 figs.

Hydrologic Investigations Atlases

- U.S. Geological Survey hydrologic investigations atlases are multicolored or black and white maps on topographic or planimetric bases presenting a wide range of geohydrologic data.
- HA-2. Areas of principal ground-water investigations in the Arkansas, White, and Red River Basins, by S.W. Lohman and V.M. Burtis, 1953: 1 sheet, scale 1:2,500,000.
- HA-3. General availability of ground water and depths to water level in the Arkansas, White, and Red River Basins, by S.W. Lohman, V.M. Burtis, and others, 1953: 1 sheet, scale 1:2,500,000.
- **HA-14.** Floods of the Kansas River, Topeka, Kansas, in 1935 and 1951, by U.S. Geological Survey, 1959: 1 sheet, scale 1:24,000.
- HA-58. Emergency water supplies in the Wichita area, Kansas, by C.W. Lane, E.L. Reavis, and G.J. Stramel, 1962: 36 p., 1 sheet, scale 1:250,000
- **HA-63.** Floods at Wichita, Kansas, by D.W. Ellis and others, 1963: 5 sheets, scale 1:24,000.
- **HA-212.** Annual runoff in the conterminous United States, by M.W. Busby, 1966: 1 sheet, scale 1:7,500,000.
- **HA-217.** General availability of ground water and depth to water level in the Missouri River Basin, by G.A. La Rocque, Jr., 1966: 1 sheet, scale 1:2,500,000.
- **HA-279.** Geology and ground water in Labette County, Kansas, by W.L. Jungmann and C.C. Williams, 1968: 1 sheet, scale 1:63,390.
- HA-416. Ground water in Kearny County, southwestern Kansas, by E.D. Gutentag, D.H. Lobmeyer, and H.E. McGovern, 1972: 2 sheets, scale 1:125,000.
- HA-429. Water resources of northwestern Kansas, by R.H. Pearl, R.S. Roberts, K.M. Keene, and T.J. McClain, 1972: 2 sheets, scale 1:250,000.
- HA-442. Ground water in Finney County, southwestern Kansas, by E.D. Gutentag, D.H. Lobmeyer, H.E. McGovern, and W.A. Long, 1972: 3 sheets, scale 1:250,000.
- **HA-462.** Geohydrology of Doniphan County, northeastern Kansas, by C.K. Bayne, 1973: I sheet, scale 1:62,500.

- **HA-467.** Geohydrology of Atchison County, northeastern Kansas, by J.R. Ward, 1973: 2 sheets, scale 1:62,500.
- **HA-515.** Ground water in Haskell County, southwestern Kansas, by E.D. Gutentag and L.E. Stullken, 1974: 2 sheets, scale 1:250,000.
- **HA-516.** Water resources of Hamilton County, southwestern Kansas, by D.H. Lobmeyer and C.G. Sauer, 1974: 2 sheets, scales 1:250,000 and 1:500,000.
- **HA-517.** Ground water in Gray County, southwestern Kansas, by H.E. McGovern and W.A. Long, 1974: 2 sheets, scale 1:250,000.
- HA-521. Water resources of Gove, Logan, and Wallace Counties, west-central Kansas, by T.J. McClain, E.D. Jenkins, K.M. Keene, and M.E. Pabst, 1975: 2 sheets, scales 1:250,000 and 1:500,000.
- HA-658. Dissolved solids and sodium in water from the High Plains aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, by N.C. Krothe, J.W. Oliver, and J.B. Weeks, 1982: 2 sheets, scale 1:2,500,000.
- HA-678. Hydrologic characteristics of soils in parts of Arkansas, Colorado, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, South Dakota, and Texas, by J.T. Dugan, 1986: 1 sheet, scale 1:1,500,000.
- **HA-688.** Flow characteristics for selected springs and streams in the Ozark subregion, Arkansas, Kansas, Missouri, and Oklahoma, by E.R. Hedman, John Skelton, and D.A. Freiwald, 1987: 4 sheets, scale 1:750,000.
- HA-708. Flow characteristics for selected streams in the Great Plains subregion of the Central Midwest aquifer system and selected adjacent areas—Kansas and Nebraska, and parts of Colorado, Iowa, Missouri, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, by E.R. Hedman and G.B. Engel, 1989: 3 sheets, scale 1:1,000,000.
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- HA-711-J. Water type and concentration of dissolved solids, chloride, and sulfate in water from the St. François aquifer in Missouri, Arkansas, Kansas, and Oklahoma, by J.L. Imes and J.V. Davis, 1990: 1 sheet, scale 1:750,000.
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- HA-722-A. Geohydrologic systems in Kansas with emphasis on systems in upper Cambrian through Lower Cretaceous rocks, by R.J. Wolf, C.V. Hansen, H.E. McGovern, and J.M. Spinazola, 1990: 2 sheets, scales 1:1,500,000 and 1:2,000,000.
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- HA-722-C. Geohydrologic systems in Kansas—Physical framework of the Western Interior Plains confining system, by R.J. Wolf, H.E. McGovern, and J.M. Spinazola, 1992: 2 sheets, scales 1:1,000,000 and 1:3,000,000.
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- Plains aquifer system, by C.V. Hansen, R.J. Wolf, and J.M. Spinazola, 1992: 2 sheets, scales 1:1,000,000 and 1:3,000,000.
- HA-722-F. Geohydrologic systems in Kansas—Physical framework of the lower aquifer unit in the Western Plains aquifer system by C.V. Hansen, J.M. Spinazola, and R.J. Wolf, 1994: 2 sheets, scale 1:1,000,000 and 1:3,000,000.
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The Journal of Research contains scientific notes and summaries of investigations in geology, hydrology, and related publications. The Journal of Research of the U.S. Geological Survey ceased publication with the volume 6, number 6 (November–December 1978) issue.

- Hedman, E.R., and Kastner, W.M., 1977, Streamflow characteristics related to channel geometry in the Missouri River Basin: v. 5, no. 3, p. 285–300.
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Miscellaneous Field Studies Maps

Miscellaneous field studies maps are multicolor or black and white maps on topographic or planimetric bases at various scales. Pre-1971 maps show bedrock geology in relation to specific mining or mineral-deposit problems; post-1971 maps are preliminary black and white maps on various subjects such as environmental studies or mineral investigations.

MF-1835-B. Equivalent freshwater head and dissolved-solids concentration of water in rocks of Cambrian, Ordovician, and Mississippian age in the northern Midcontinent, U.S.A., by D.G. Jorgensen, J.O. Helgesen, R.B. Leonard, and D.C. Signor, 1986: 2 sheets, scale 1:1,000,000.

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- U.S. Geological professional papers are mainly comprehensive scientific reports of wide and lasting interest and importance to professional scientists and engineers. Included are reports on the results of resource studies and of topographic, hydrologic, and geologic investigations. They also include collections of related papers addressing different aspects of a single scientific topic,
- *32. Preliminary report on the geology and underground water resources of the central Great Plains, by N.H. Darton, 1905: 433 p.
- *135. The composition of the river and lake waters of the United States, by F.W. Clarke, 1924: 133 p.
- *272-D. Evaporation from the 17 Western States by J.S. Meyers, with a section on Evaporation rates, by T.J. Nordenson, 1962: p. 71-100.
- *352-D. Channel widening and flood-plain construction along the Cimarron River in southwestern Kansas, by S.A. Schumm and R.W. Lichty, 1963: p. 71-88.
- *372-A. The meteorological phenomenon of drought in the Southwest, by H.E. Thomas, 1962: p. A1-A43.
- **424-B.** Recent flood-plain formation along the Cimarron River in Kansas, by S.A. Schumm and R.W. Lichty, 1961: p. B112.
- **424-D.** Hypothetical circulation of ground water around salt springs in western Oklahoma, Texas, and Kansas, by P.E. Ward and A.R. Leonard, 1961: p. D150.
- *450-E. Use of a neutron moisture probe to determine the storage coefficient of an unconfined aquifer, by W.R. Meyer, 1963: p. E174-E176.
- *501-B. A method for evaluating oil-field-brine pollution of the Walnut River in Kansas, by R.B. Leonard, in Geological Survey Research, 1964, Chapter B, 1964: p. B173-B176.
- *501-C. Relation of annual runoff to meteorological factors, by M.W. Busby, *in* Geological Survey Research, 1964, Chapter C, 1964: p. C188-C189.
- *575-C. Two methods of estimating base flow at ungaged stream sites in Kansas and adjacent States, by L.W. Furness and M.W. Busby, in Geological Survey Research, 1967, Chapter C, 1967: p. C208-C211.
- *600-B. Neutron moisture measurements by continuousand point-logging procedures, by R.C. Prill and W.R. Meyer, in Geological Survey Research, 1968, Chapter B, 1968: p. B226-B230.
- **600-D.** Movement of moisture in the unsaturated zone in a dune area, southwestern Kansas, by R.C. Prill, *in* Geological Survey Research, 1968, Chapter D, 1968: p. D1-D9.
- **650–D.** New locations of Pleistocene (Kansan) molluscan and ostracode faunas, Dickinson County, Kansas, by E.D. Gutentag and Carlos Galli-Olivier, *in* Geological Survey Research, 1969: p. D148–D154.

- 1021. Movement of moisture in the unsaturated zone in a loess-mantled area, southwestern Kansas, by R.C. Prill, 1977: 21 p.
- 1169. Floods in Kansas City, Missouri and Kansas, September 12–13, 1977, by L.D. Hauth, W.J. Carswell, Jr., and E.H. Chin, 1981: 47 p.
- 1200-KS. The National Gazetteer of the United States of America—Kansas 1984, by U.S. Geological Survey in cooperation with the U.S. Board on Geographic Names, 1985: 326 p.
- 1242. Perennial-streamflow characteristics related to channel geometry and sediment in Missouri River Basin, by W.R. Osterkamp and E.R. Hedman, 1982: 37 p.
- 1400-A. Summary of the High Plains regional aquifersystem analysis in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, by J.B. Weeks, E.D. Gutentag, F.J. Heimes, and R.R. Luckey, 1988: 30 p.
- 1400-B. Geohydrology of the High Plains aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, by E.D. Gutentag, F.J. Heimes, N.C. Krothe, R.R. Luckey, and J.B. Weeks, 1984: 63 p.
- 1400-E. Effects of future ground-water pumpage on the High Plains aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, by R.R. Luckey, E.D. Gutentag, F.J. Heimes, and J.B. Weeks, 1988: 44 p.
- 1414-B. Regional aquifers in Kansas, Nebraska, and parts of Arkansas, Colorado, Missouri, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming—Geohydrologic framework, by D.G. Jorgensen, J.O. Helgesen, and J.L. Imes, 1993: 72 p. and 25 pls.
- 1414-E. Hydrology of the Great Plains aquifer system in Nebraska, Colorado, Kansas, and adjacent areas, by J.O. Helgesen, R.B. Leonard, and R.J. Wolf, 1993: 80 p., 10 pls.
- 1464. Interior province—Western region, by H.E. Bevans, in Britton, L.J., Anderson, C.L., Goolsby, D.A., and Van Haveren, B.P., eds., Summary of the U.S. Geological Survey and U.S. Bureau of Land Management National Coal-Hydrology Program, 1974–84, 1989: p. 53–61.

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- U.S. Geological Survey water-supply papers include reports on the geology, hydrology, quality, recoverability, and utilization of water resources. They also include several series of statistical reports on streamflow, floods, ground-water levels, and water quality.
- *6. Underground waters of southwestern Kansas, by Erasmus Haworth, 1897: 65 p.

- *67. The motions of underground waters, by C.S. Slichter, 1902: 106 p.
- *96. Destructive floods in the United States in 1903, contains Kansas floods and hydrographic data, by E.C. Murphy, 1904: 81 p.
- *145. Water resources of the Joplin district, Missouri-Kansas, by W.S.T. Smith, 1905: p. 74–83.
- *147. Destructive floods in the United States in 1904, contains Kansas floods, by E.C. Murphy and others, 1905: 206 p.
- *149. Preliminary list of deep borings in the United States, by N.H. Darton, 1905: 175 p.
- *153. The underflow in the Arkansas Valley in western Kansas, by C.S. Slichter, 1906: 90 p.
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- *273. Quality of the water supplies of Kansas, by H.N. Parker, with a preliminary report on Stream pollution by mine waters in southeastern Kansas, by E.H.S. Bailey, 1911: 375 p.
- *345-A. Preliminary report on ground water for irrigation in the vicinity of Wichita, Kansas, by O.E. Meinzer, 1915: 9 p.
- *796-B. Flood on Republican and Kansas Rivers, May and June 1935, by Robert Follansbee and J.B. Spiegel, 1937: p. 21-52.
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- *1798-B. Fluvial sediment in the Little Arkansas River Basin, Kansas, by C.D. Albert and G.J. Stramel, 1966: p. B1-B30.
- *1800. Kansas, by V.C. Fishel, in McGuinness, C.L., The role of ground water in the national water situation, 1963: p. 341–353.
- *1819-H. Fluvial sediment and chemical quality of water in the Little Blue River Basin, Nebraska and Kansas, by J.C. Mundorff and K.M. Waddell, 1966: p. H1-H45.
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- 2375. Quantification of floods and droughts, by P.R. Jordan and M.E. Jennings, and Kansas floods and droughts, by R.W. Clement, *in* National water summary 1988–89—Hydrologic events and floods and droughts, by R.W. Paulson, E.B. Chase, R.S. Roberts, and D.W. Moody, compilers, 1991: p. 158–161, p. 287–294.
- **2381-C.** Assessment of nonpoint-source contamination of the High Plains aquifer in south-central Kansas, 1987, by J.O. Helgesen, L.E. Stullken, and A.T. Rutledge, 1994: 51 p.
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- U.S. Geological Survey water-resources investigations reports (WRIR) are applied to reports that are of an interpretative nature made available to the public outside the formal USGS publications series. WRIR's are not reproduced and distributed in quantity as are formal USGS publications.
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Reconnaissance data for selected herbicides and two metabolites in surface water of the midwestern United States—Chemical analysis by immunoassay and gas chromatography/mass spectrometry, by E.A. Scribner, E.M. Thurman, and D.A. Goolsby, p. 84.

- 93-457. Reconnaissance data for selected herbicides, two atrazine metabolites, and nitrate in surface water of the midwestern United States, 1989-90, by E.A. Scribner, E.M. Thurman, D.A. Goolsby, M.T. Meyer, M.S. Mills, and M.L. Pomes, 1993: 77 p.
- 94-35. Water resources on and near Indian Iands in northeastern Kansas and southeastern Nebraska—Hydrologic data through 1990, by L.D. Brewer, T.J. Trombley, and M.J. Pomes, 1994: 424 p.

- 94-46. Description and use of a geographic-information-system-based water information management and analysis system (WIMAS), by K.E. Juracek, 1994: 20 p.
- 94-89. Water-resources activities of the U.S. Geological Survey in Kansas—Fiscal years 1992 and 1993, and plans for fiscal year 1994, by K.A. Powell, 1994: 122 p.
- 94-396. Concentrations of selected herbicides, two triazine metabolites, and nutrients in storm runoff from nine stream basins in the midwestern United States, 1990-92, by E.A. Scribner, D.A. Goolsby, E.M. Thurman, M.T. Meyer, and M.L. Pomes, 1994: 144 p.
- 94–497. Concentrations of triazine herbicides in the unsaturated zone in western Harvey County, Kansas, spring and fall 1992–93, by K.E. Juracek, 1994: 23 p.

Water-Data Reports

Kansas records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1960-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the U.S. Geological Survey, Earth Science Information Center, Open-File Reports Section, Box 25286, MS 517, Denver Federal Center, Denver, CO 80225.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflows, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year and the volume number; for example, "U.S. Geological Survey Water-Data Report KS-82-1." These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

- 1962. Surface water records of Kansas, 1961: 165 p.
- 1963. Surface water records of Kansas, 1962: 179 p.
- 1964. Surface water records of Kansas, 1963: 191 p.
- 1965. Surface water records of Kansas, 1964: 215 p.
- 1966. Water quality records in Kansas, 1964: 205 p.

- **1966.** Water resources data for Kansas—Part 1, Surface water records, 1965: 202 p.
- **1967.** Water resources data for Kansas—Part 1, Surface water records, 1966: 202 p.
- **1967.** Water resources data for Kansas—Part 2, Water quality records, 1965: 223 p.
- 1968. Water resources data for Kansas—Part 1, Surface water records, 1967: 204 p.
- 1968. Water resources data for Kansas—Part 2, Water quality records, 1966: 223 p.
- **1969.** Water resources data for Kansas—Part 1, Surface water records, 1968: 212 p.
- 1970. Water resources data for Kansas—Part 1, Surface water records, 1969: 216 p.
- 1970. Water resources data for Kansas—Part 2, Water quality records, 1967: 191 p.
- 1970. Water resources data for Kansas—Part 2, Water quality records, 1968: 225 p.
- 1971. Water resources data for Kansas—Part 2, Water quality records, 1969: 201 p.
- 1971. Water resources data for Kansas—Part 1, Surface water records, 1970: 216 p.
- 1971. Water resources data for Kansas—Part 2, Water quality records, 1970: 159 p.
- 1972. Water resources data for Kansas—Part 1, Surface water records, 1971: 206 p.
- **1972.** Water resources data for Kansas—Part 2, Water quality records, 1971: 140 p.
- **1973.** Water resources data for Kansas—Part 1, Surface water records, 1972: 202 p.
- 1973. Water resources data for Kansas—Part 2, Water quality records, 1972: 154 p.
- 1974. Water resources data for Kansas—Part 1, Surface water records, 1973: 202 p.
- 1974. Water resources data for Kansas—Part 2, Water quality records, 1973: 168 p.
- 1975. Water resources data for Kansas—Part 1, Surface water records, 1974: 202 p.
- 1975. Water resources data for Kansas—Part 2, Water quality records, 1974: 188 p.
- **KS-75-1.** Water resources data for Kansas, water year 1975, 1976: 405 p.
- **KS-76-1.** Water resources data for Kansas, water year 1976, 1977: 395 p.
- KS-77-1. Water resources data for Kansas, water year 1977, 1978: 618 p.
- **KS-78-1.** Water resources data for Kansas, water year 1978, 1979: 656 p.
- **KS-79-1.** Water resources data for Kansas, water year 1979—Volume 1. Missouri Basin, 1980: 372 p.
- **KS-79-2.** Water resources data for Kansas, water year 1979—Volume 2. Arkansas River Basin, 1980: 372 p.

- **KS-80-1.** Water resources data for Kansas, water year 1980—Volume 1. Missouri River Basin, 1981: 422 p.
- KS-80-2. Water resources data for Kansas, water year 1980—Volume 2. Arkansas River Basin, 1981: 340 p.
- **KS-81-1.** Water resources data for Kansas, water year 1981, 1982: 566 p.
- **KS-82-1.** Water resources data, Kansas, water year 1982, by C.O. Geiger, D.L. Lacock, L.R. Shelton, M.L. Penny, and C.E. Merry, 1983: 485 p.
- **KS-83-1.** Water resources data, Kansas, water year 1983, by C.O. Geiger, D.L. Lacock, L.R. Shelton, M.L. Penny, and C.E. Merry, 1984: 483 p.
- **KS-84-1.** Water resources data, Kansas, water year 1984, by C.O. Geiger, D.L. Lacock, L.R. Shelton, M.L. Penny, and C.E. Merry, 1985: 500 p.
- **KS-85-1.** Water resources data, Kansas, water year 1985, by C.O. Geiger, D.L. Lacock, J.E. Putnam, B.L. Riche, and C.E. Merry, 1986: 478 p.
- **KS-86-1.** Water resources data, Kansas, water year 1986, by C.O. Geiger, D.L. Lacock, J.E. Putnam, C.E. Merry, and D.R. Schneider, 1987: 482 p.
- **KS-87-1.** Water resources data, Kansas, water year 1987, by C.O. Geiger, D.L. Lacock, J.E. Putnam, C.E. Merry, and D.R. Schneider, 1988: 492 p.
- **KS-88-1.** Water resources data, Kansas, water year 1988, by C.O. Geiger, D.L. Lacock, D.R. Schneider, M.D. Carlson, and C.E. Merry, 1989: 490 p.
- **KS-89-1.** Water resources data, Kansas, water year 1989, by C.O. Geiger, D.L. Lacock, D.R. Schneider, M.D. Carlson, and C.E. Merry, 1990: 457 p.
- KS-90-1. Water resources data, Kansas, water year 1990, by C.O. Geiger, D.L. Lacock, D.R. Schneider, M.D. Carlson, and B.J. Pabst, 1991: 370 p.
- **KS-91-1.** Water resources data, Kansas, water year 1991, by C.O. Geiger, D.L. Lacock, D.R. Schneider, M.D. Carlson, and B.J. Pabst, 1992: 358 p.
- KS-92-1. Water resources data, Kansas, water year 1992, by C.O. Geiger, D.L. Lacock, D.R. Schneider, M.D. Carlson, and B.J. Dague, 1993: 500 p.
- **KS-93-1.** Water resources data Kansas, water year 1993, by C.O. Geiger, D.L. Lacock, D.L. Schneider, M.D. Carlson, and B.J. Dague, 1994: 497 p.

Miscellaneous Publications

Miscellaneous publications are brief nontechnical summaries of topics often asked about, such as earthquakes, energy resources, mineral resources, water resources, volcanoes, glaciers, and rivers. Also listed under miscellaneous publications are U.S. Geological Survey folders, a series of folders entitled "Water Resources Investigations in (State)" that outline the Geological Survey's water-resources program in the 50 States and Puerto Rico. Each folder has a large map that shows the location of stream-gaging stations, observation wells, quality-of-water

sampling sites, and investigations in progress. Smaller maps show other significant hydrologic aspects. A brief text explains the Water Resources Division's cooperative program and the hydrologic-data network. Also given are the investigations in progress and a selected list of references.

- *1935. Ground water in the southern High Plains, by C.V. Theis, H.P. Burleigh, and H.A. Waite, 1935: U.S. Department of the Interior Memorandum for the Press, October 1935, 4 p.
- 1964. Status of water resources investigations in Kansas: U.S. Geological Survey folder.
- 1966. Water resources investigations in Kansas, 1965: U.S. Geological Survey folder.
- 1969. Water resources investigations in Kansas, 1968: U.S. Geological Survey folder.
- 1972. Water resources investigations in Kansas, 1972: U.S. Geological Survey folder.
- 1978. Water resources investigations in Kansas: U.S. Geological Survey folder.
- 1978. Water resources investigations in Kansas, fiscal year 1977, by U.S. Geological Survey: 80 p.
- 1978. Water resources investigations in Kansas, 1978: U.S. Geological Survey Water Index folder.

Outside Publications—Articles and Reports

Articles prepared by or in cooperation with U.S. Geological Survey personnel in non-U.S. Geological Survey publications that came to our attention for 1886–1994 are listed below:

Kansas Department of Health and Environment Bulletins

- 1-2. The relation of the chemical quality of the Whitewater River at Towanda to that of the Walnut River at Winfield, Kansas during the 1963 water year, by R.B. Leonard and K.L. Shah, 1964: 18 p.
- 1-3. Results of four chemical-quality surveys of the Walnut River Basin, Kansas (December 1961 to October 1963), by R.B. Leonard, 1964: 38 p.
- 1-4. Chemical quality of surface waters in Kansas, 1962 water year, by J.L. Mayes and Don Culbertson, 1964: 61 p.
- 1-5. Brine in surface water of the Little Arkansas River Basin, Kansas, by C.D. Albert, 1964: 15 p.
- 1-7. Chemical quality of public water supplies in Kansas, by J.L. Mayes, G.A. Stoltenberg, and N.J. Burris, 1965: 39 p.
- 1-8. Chemical quality of surface waters in Kansas, 1963 water year, by J.L. Mayes and A.M. Diaz, 1965: 67 p.

- 1-10. Effect of irrigation on the chemical quality of low streamflow adjacent to Cedar Bluff Irrigation District, Kansas, a progress report, by R.B. Leonard, 1969: 17 p.
- 1-11. Variations in the chemical quality of ground water beneath an irrigated field, Cedar Bluff Irrigation District, Kansas, by R.B. Leonard, 1970: 20 p.
- 1-12. Compilation of data for water-quality investigation, Cedar Bluff Irrigation District, Kansas, by R.B. Leonard and G.A. Stoltenberg, 1972: 158 p.
- **B2-49.** Urban water-quality data and statistical summaries for selected sites in the Shunganunga Creek Basin, Topeka, Kansas, by L.M. Pope, A.M. Diaz, and M.K. Butler, 1983: 203 p.

Kansas Geological Survey

Bulletins

- *27. Ground-water resources of Kansas (with chapters by S.W. Lohman, J.C. Frye, H.A. Waite, T.G. McLaughlin, and B.F. Latta), by R.C. Moore, 1940: 112 p.
- *35. A preliminary report on the water supply of the Meade Artesian Basin, Meade County, Kansas, by J.C. Frye, 1940: 39 p.
- *37. Geology and ground-water resources of Stanton County, Kansas, by B.F. Latta, 1941: 119 p.
- *38, pt. 2. Ground-water conditions in the vicinity of Lawrence, Kansas, by S.W. Lohman, 1941: 64 p.
- *38, pt. 9. Reconnaissance of ground-water resources of Atchison County, Kansas, by J.C. Frye, 1941: p. 237–260.
- *40. Geology and ground-water resources of Morton County, Kansas, by T.G. McLaughlin, 1942: 126 p.
- *41, pt. 1. Ground-water supplies available for national defense industries in south-central Kansas, by S.W. Lohman, 1942: 19 p.
- *41, pt. 2. Ground-water supplies available in Kansas for national defense industries, by S.W. Lohman, J.C. Frye, H.A. Waite, V.C. Fishel, T.G. McLaughlin, B.F. Latta, and G.E. Abernathy, 1942: p. 21–28.
- *43. Geology and ground-water resources of Ford County, Kansas, by H.A. Waite, 1942: 250 p.
- *45. Geology and ground-water resources of Meade County, Kansas, by J.C. Frye, 1942: 152 p.
- *49. Geology and ground-water resources of Hamilton and Kearny Counties, Kansas, by T.G. McLaughlin, 1943: 220 p.
- *50. Ground water in the oil-field areas of Ellis and Russell Counties, Kansas, by J.C. Frye, J.J. Brazil, and H.A. Stoltenberg, 1943: 104 p.

- *52, pt. 2. Ground-water conditions in the Neosho River Valley in the vicinity of Parsons, Kansas, by C.C.—Williams, 1944: p. 29-80.
- *55. Geology and ground-water resources of Finney and Gray Counties, Kansas, by B.F. Latta, 1944: 272 p.
- *59. Geology and ground-water resources of Thomas County, Kansas, by J.C. Frye, 1945: 110 p.
- *61. Geology and ground-water resources of Grant, Haskell, and Stevens Counties, Kansas, by T.G. McLaughlin, 1946: 221 p.
- *64, pt. 3. Ground-water conditions in Elm Creek Valley, Barber County, Kansas, by C.C. Williams and C.K. Bayne, 1946: p. 77–124.
- *64, pt. 5. Ground-water conditions in Arkansas River Valley in the vicinity of Hutchinson, Kansas, by C.C. Williams, 1946: p. 145–216.
- *65. Geology and ground-water resources of Kiowa County, Kansas, by B.F. Latta, 1948: 151 p.
- *66. Geology and ground-water resources of Scott County, Kansas, by H.A. Waite, 1947: 216 p.
- *69. Geology and ground-water resources of Seward County, Kansas, by F.E. Byrne and T.G. McLaughlin, 1947: 140 p.
- *71. Ground-water resources of the Kansas City, Kansas area, by V.C. Fishel, 1948: 109 p.
- *73. Geology and ground-water resources of Republic County and northern Cloud County, Kansas, by V.C. Fishel, 1948: 194 p.
- *76, pt. 2. Contamination of deep water wells in southeastern Kansas, by C.C. Williams, 1948: p. 13–28.
- *76, pt. 6. Ground-water supplies at Hays, Victoria, Walker, Gorham, and Russell, Kansas, with special reference to future needs, by B.F. Latta, 1948: p. 121–196.
- *79. Geology and ground-water resources of a part of south-central Kansas, with specific references to the Wichita municipal water supply, by C.C. Williams and S.W. Lohman, 1949: 455 p.
- *80. Geology and ground-water resources of Pawnee and Edwards Counties, Kansas, by T.G. McLaughlin, 1949: 189 p.
- *81. Geology and ground-water resources of Norton County and northwestern Phillips County, Kansas, by J.C. Frye and A.R. Leonard, 1949: 144 p.
- *84. Ground-water conditions in the Smoky Hill Valley in Saline, Dickinson, and Geary Counties, Kansas, by B.F. Latta, 1949: 152 p.
- *85. Geology and ground-water resources of Rice County, Kansas, by O.S. Fent, 1950: 142 p.

- *86, pt. 6. Subsurface reconnaissance of glacial deposits in northeastern Kansas, by J.C. Frye and K.L. Walters, 1950: p. 141–158.
- *88. Geology and ground-water resources of Barton and Stafford Counties, Kansas, by B.F. Latta, 1950: 228 p.
- *93. Geology and ground-water resources of Lane County, Kansas, by G.C. Prescott, Jr., 1951: 126 p.
- *94. Ground-water resources of Pawnee Valley, Kansas, by V.C. Fishel, 1952: 144 p.
- **95.** Geology and ground-water resources of Lincoln County, Kansas, by D.W. Berry, with a chapter on The chemical quality of ground water, by W.H. Durum, 1952: 96 p.
- *96, pt. 5. Geology and ground-water resources of the Kansas River Valley between Lawrence and Topeka, Kansas, by S.N. Davis and W.A. Carlson, 1952: p. 201–276.
- 98. Geology and ground-water resources of the North Fork Solomon River in Mitchell, Osborne, Smith, and Phillips Counties, Kansas, by A.R. Leonard, 1952: 150 p.
- 100. Geology and ground-water resources of Cheyenne County, Kansas, by G.C. Prescott, Jr., 1953: 106 p.
- 101. Geology and ground-water resources of Jackson County, Kansas, by K.L. Walters, 1953: 91 p.
- **105.** Geology and ground-water resources of Sherman County, Kansas, by G.C. Prescott, Jr., 1953: 130 p.
- **106.** Geology and ground-water resources of Marshall County, Kansas, by K.L. Walters, 1954: 116 p.
- 108. Geology and ground-water resources of Wichita and Greeley Counties, Kansas, by G.C. Prescott, Jr., J.R. Branch, and W.W. Wilson, 1954: 134 p.
- 110. Geology and ground-water resources of Graham County, Kansas, by G.C. Prescott, Jr., 1955: 98 p.
- 115. Geology and ground-water resources of Jewell County, Kansas, by V.C. Fishel and A.R. Leonard, 1955: 152 p.
- **116.** Geology and ground-water resources of Sheridan County, Kansas, by C.K. Bayne, 1956: 94 p.
- 117. Geology and water-resources of Rawlins County, Kansas, by K.L. Walters, 1956: 100 p.
- 119, pt. 1. Progress report on the ground-water hydrology of the *Equus*-beds area, Kansas, by G.J. Stramel, 1956: 59 p.
- **120.** Geology and ground-water resources of Reno County, Kansas, by C.K. Bayne, 1956: 130 p.
- *125. Ground-water levels in observation wells in Kansas, 1956, by V.C. Fishel and B.J. Mason, 1957: 158 p.
- 126. Ground-water resources of the Ladder Creek area in Kansas, by Edward Bradley and C.R. Johnson, with a section on The chemical quality of water, by R.A. Krieger, 1957: 194 p.

- **127, pt. 5.** The hydraulic properties of the Ordovician rocks at Pittsburg, Kansas, by G.J. Stramel, 1957: p. 153–178.
- **129.** Geology and ground-water resources of Logan County, Kansas, by C.R. Johnson, 1958: 175 p.
- 130, pt. 1. Quaternary geology and ground-water resources of the Kansas River Valley between Bonner Springs and Lawrence, Kansas, by A.E. Dufford, 1958: 96 p.
- *131. Ground-water levels in observation wells in Kansas, 1957, by V.C. Fishel and B.J. Mason, 1958: 152 p.
- **132.** Geology and ground-water hydrology of the Ingalls area, Kansas, by G.J. Stramel, C.W. Lane, and W.G. Hodson, 1958: 154 p.
- **136.** Geology and ground-water resources of Clay County, Kansas, by K.L. Walters and C.K. Bayne, 1959: 106 p.
- 139. Geology and ground-water resources of Cloud County, Kansas, by C.K. Bayne and K.L. Walters, 1959: 144 p.
- **140.** Geology and ground-water resources of Mitchell County, Kansas, by W.G. Hodson, 1959: 132 p.
- *141. Ground-water levels in observation wells in Kansas, 1958, by V.C. Fishel, E.L. Gulley, and E.L. Reavis, 1959: 146 p.
- **143.** Geology and ground-water resources of Harper County, Kansas, by C.K. Bayne, 1960: 183 p.
- **144.** Geology and ground-water resources of Kingman County, Kansas, by C.W. Lane, 1960: 173 p.
- **145.** Geology and ground-water resources of Gove County, Kansas, by W.G. Hodson and K.D. Wahl, 1960: 126 p.
- *146. Ground-water levels in observation wells in Kansas, 1959, by V.C. Fishel and M.E. Broeker, 1960: 174 p.
- *148. Geology and ground-water resources of Douglas County, Kansas, by H.G. O'Connor, 1960: 200 p.
- **149.** Geology and ground-water resources of southern Ellis County and parts of Trego and Rush Counties, Kansas, by A.R. Leonard and D.W. Berry, 1961: 156 p.
- 151. Geology and ground-water resources of Sumner County, Kansas, by K.L. Walters, 1961: 198 p.
- *153. Ground-water levels in observation wells in Kansas, 1960, by M.E. Broeker and V.C. Fishel, 1961: 183 p.
- **154.** Geology and ground-water resources of Ottawa County, Kansas, by L.E. Mack, 1962: 145 p.
- 158. Geology and ground-water resources of Cowley County, Kansas, by C.K. Bayne, 1962: 219 p.
- *159. Ground-water levels in observation wells in Kansas, 1961, by M.E. Broeker and V.C. Fishel, 1962: 165 p.
- **161.** Geology and ground-water resources of Wallace County, Kansas, by W.G. Hodson, 1963: 108 p.
- *167. Ground-water levels in observation wells in Kansas, 1962, by M.E. Broeker and J.D. Winslow, 1963: 89 p.

- **168.** Geohydrology of Grant and Stanton Counties, Kansas, by S.W. Fader, E.D. Gutentag, D.H. Lobmeyer, and W.R. Meyer, 1964: 147 p.
- *173. Ground-water levels in observation wells in Kansas, 1963, by M.E. Broeker and J.D. Winslow, 1964: 93 p.
- **174.** Geology and ground-water resources of Trego County, Kansas, by W.G. Hodson, 1965: 80 p.
- **176.** Geohydrology of Sedgwick County, Kansas, by C.W. Lane and D.E. Miller, 1965: 100 p.
- *177. Ground-water levels in observation wells in Kansas, 1964, by M.E. Broeker and J.D. Winslow, 1965: 93 p.
- **181.** Geology and ground-water resources of Miami County, Kansas, by D.E. Miller, 1966: 66 p.
- **182.** Ground water in Kansas—Bibliography and subject index, by R.S. Roberts and W.G. Hodson, 1966: 41 p.
- **183.** Geology and ground-water resources of Neosho County, Kansas, by W.L. Jungmann, 1966: 46 p.
- **184.** Ground-water levels in observation wells in Kansas, 1965, by M.E. Broeker and J.D. Winslow, 1966: 92 p.
- **186.** Geology and ground-water resources of Brown County, Kansas, by C.K. Bayne and W.H. Schoewe, 1967: 68 p.
- **187, pt. 2.** Progress report on the ground-water hydrology of the *Equus*-beds area, Kansas, 1966, by G.J. Stramel, 1966: 27 p.
- **188.** Ground water in the Republican River area, Cloud, Jewell, and Republic Counties, Kansas, by S.W. Fader, 1968: 27 p.
- 193. Geology and ground-water resources of Linn County, Kansas, by W.J. Seevers, 1969: 62 p.
- 194, pt. 1. Computer applications in hydrology in Kansas by C.O. Morgan, J.M. McNellis, and B.H. Lowell, 1969, in Zeller, D.E., ed., Short papers on research, 1968: p. 3-7.
- 195. Geology and ground-water resources of Allen County, Kansas, by D.E. Miller, 1969: 50 p.
- **196.** Geology and ground-water resources of Decatur County, Kansas, by W.G. Hodson, 1969: 41 p.
- **201.** Geology and ground-water resources of Ellsworth County, central Kansas, by C.K. Bayne, P.C. Franks, and William Ives, Jr., 1971: 84 p.
- **202, pt. 4.** Geohydrology of Jefferson County, northeastern Kansas, by J.D. Winslow, 1972: 20 p.
- **203.** Geology and ground-water resources of Johnson County, northeastern Kansas, by H.G. O'Connor, 1971: 68 p.
- 204, pt. 1. Numerical solution of the three-dimensional heat flow equation, by J.C. Halepaska and J.W. Hartman, 1972: p. 11-13.

- **205.** Geology and ground-water resources of Pratt County, south-central Kansas, by D.W. Layton and D.W. Berry, 1973: 33 p.
- 206, pt. 2. Ground water in the Kansas River Valley, Junction City to Kansas City, Kansas, by S.W. Fader, 1974: 12 p.
- **206, pt. 3.** Geology and hydrology of Rice County, central Kansas, by C.K. Bayne and J.R. Ward, 1974: 17 p.
- **207.** Geology and ground-water resources of Rush County, central Kansas, by J.M. McNellis, 1973: 45 p.

Basic-Data Series, Ground-Water Releases

- *1. Hydrogeologic data from Cheyenne, Decatur, Rawlins, Sheridan, Sherman, and Thomas Counties, Kansas, by K.M. Keene, R.H. Pearl, and M.E. Pabst, 1969: 113 p.
- *2. Hydrogeologic data from Gove, Logan, and Wallace Counties, Kansas, by K.M. Keene and M.E. Pabst, 1971: 76 p.
- 3. Ground-water levels in observation wells in Kansas, 1966–70, by M.E. Broeker and J.M. McNellis, 1973: 373 p.
- 4. Hydrogeologic data from Greeley, Wichita, Scott, and Lane Counties, Kansas, by L.E. Stullken, E.C. Weakly, E.D. Gutentag, and S.E. Slagle, 1974: 58 p.
- 5. Hydrogeologic data from the Great Bend Prairie, south-central Kansas, by L.E. Stullken and S.W. Fader, 1976: 50 p.
- 6. Ground-water levels in observation wells in Kansas, 1971–75, by M.E. Broeker, H.J. McIntyre, Jr., and J.M. McNellis, 1977: 526 p.
- 7. Hydrogeologic data from north-central Kansas, by L.E. Stullken, 1980: 46 p.

Chemical Quality Series

- 1. Changes in chemical quality of water, Cedar Bluff Irrigation District area, west-central Kansas, by R.B. Leonard, 1974: 72 p.
- 2. Chemical quality of irrigation waters in west-central Kansas, by L.R. Hathaway, L.M. Magnuson, B.L. Carr, O.K. Galle, and T.C. Waugh, 1975: 46 p.
- 3. Saline water in the Little Arkansas River Basin area, south-central Kansas, by R.B. Leonard and M.K. Kleinschmidt, 1976: 24 p.
- 4. Chemical quality of irrigation waters in Hamilton, Kearny, Finney, and northern Gray counties, by L.R. Hathaway, B.L. Carr, O.K. Galle, L.M. Magnuson, T.C. Waugh, and H.P. Dickey, 1977: 33 p.
- **5.** Ground water from Lower Cretaceous rocks in Kansas, by K.M. Keene and C.K. Bayne, 1977: 18 p.
- 6. Chemical quality of irrigation waters in southwestern Kansas, by L.R. Hathaway, B.L. Carr, M.A. Flanagan,

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- O.K. Galle, T.C. Waugh, H.P. Dickey, and L.M. Magnuson, 1978: 35 p.
- 7. Chemical quality of irrigation waters in Ford County and the Great Bend Prairie of Kansas, by L.R. Hathaway, O.K. Galle, T.C. Waugh, and H.P. Dickey, 1978: 41 p.
- 8. Chemical quality of irrigation waters in northwestern Kansas, by L.R. Hathaway, T.C. Waugh, O.K. Galle, and H.P. Dickey, 1979: 45 p.
- 9. Discharge of saltwater from Permian rocks to major stream-aquifer systems in central Kansas, by Tony Gogel, 1981: 60 p.
- 10. Chemical quality of irrigations waters in the *Equus*-beds area, south-central Kansas, by L.R. Hathaway, T.C. Waugh, O.K. Galle, and H.P. Dickey, 1981: 45 p.

Ground-Water Series

- 1. Geology and ground-water resources of Montgomery County, southeastern Kansas, by H.G. O'Connor, 1974: 12 p.
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LISTING BY YEAR OF PUBLICATION

This index is arranged chronologically by year of publication. After you have located the publication year, citations are listed alphabetically by the author's last name and initials, and then chronologically by publication year. For author listings with more than one publication in a given year, the letters "a," "b," "c," and so forth are added after the year.

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GEOGRAPHIC INDEX

This index was compiled by scanning the report titles. It is intended as an aid in the initial search for a specific geographic area. This index is arranged alphabetically by geographic location. The keyword sends you from a location of interest to an author entry. Listings under each geographic location are arranged alphabetically by the author's last name and initials, followed by the year of publication. For a complete bibliographic citation, the reader should refer to "Alphabetical Listing by Author," beginning on page 3.

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Zelt, R.B., 1991

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Leonard, R.B., and others, 1983

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Hodson, W.G., 1959; 1963; 1965; 1969

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Johnson, C.R., 1958

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Jungmann, W.L., 1966

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Lane, C.W., 1960

Latta, B.F., 1941; 1944; 1948a; 1950

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McNellis, J.M., 1973

Miller, D.E., 1966; 1969

O'Connor, H.G., 1960; 1971; 1974

Prescott, G.C., Jr., 1951; 1953a; 1953b; 1955

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Walters, K.L., 1953; 1954; 1956; 1961

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Fader, S.W., and Stullken, L.E., 1976; 1977; 1978

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Ground-water levels—Continued

Broeker, M.E., and others, 1977

Broeker, M.E., and Winslow, J.D., 1963; 1964; 1965; 1966

Buddemeier, R.W., and others, 1991

Dague, B.J., 1985a; 1986a; 1987a; 1987b

Dunlap, L.E., 1980

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Winslow, J.D., and others, 1964; 1968

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Dingman, R.J., 1969

Jorgensen, D.G., and others, 1982

Prill, R.C., 1968; 1977

Rutledge, A.T., and Helgesen, J.O., 1990

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Wolff, H.C., 1911

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Adams, C.D., and others, 1990

Baker, C.H., Jr., and Hansen, C.V., 1987; 1988

Berry, D.W., 1952

Falwell, Ronald, and others, 1990

Heck, B.A., and others, 1992

Helgesen, J.O., 1990; 1991

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Ground-water quality—Continued

Rasmussen, P.P., 1994

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Spruill, T.B., 1982; 1983b; 1984a; 1984b; 1985;

1987a; 1989; 1990a; 1990b

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Hansen, C.V., 1991b

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Perry, C.A., 1984b

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Stullken, L.E., 1988b

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Bayne, C.K., 1956a; 1956b; 1958; 1960; 1962

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Fishel, V.C., and Leonard, A.R., 1955

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Frye, J.C., 1941; 1942; 1945

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Geiger, C.O., and others, 1983; 1984; 1985; 1986;

1987; 1988; 1989; 1990; 1991; 1992; 1993; 1994

Gutentag, E.D., and others, 1970; 1972

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Johnson, C.R., 1956; 1958

Jungmann, W.L., 1966

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Keene, K.M., and Bayne, C.K., 1977

Lane, C.W., 1960

Latta, B.F., 1941; 1944; 1948a; 1948b; 1949; 1950

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McLaughlin, T.G., 1942; 1943; 1946; 1949

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Meinzer, O.E., 1915

Miller, D.E., 1966; 1969

Moore, R.C., 1940

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O'Connor, H.G., 1949; 1951; 1953; 1955; 1960; 1971; 1974

Pearl, R.H., and others, 1972

Petri, L.R., and others, 1964

Prescott, G.C., Jr., 1948; 1951; 1953a; 1953b; 1955

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Roberts, R.S., and Hodson, W.G., 1966

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Slagle, S.E., and Weakly, E.C., 1976

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1981b; 1982

Waite, H.A., 1942; 1947

Walters, K.L., 1953; 1954; 1956; 1961

Walters, K.L., and Bayne, C.K., 1959

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Dunlap, L.E., and others, 1984

Heimes, F.J., and Luckey, R.R., 1983

Kastner, W.M., 1974

Lindgren, R.J., 1982

Richards, D.B., and Dunaway, T.W., 1972

Watts, K.R., 1985

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Barnes, Philip, and Perry, C.A., 1990

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Fallon, J.D., and Thurman, E.M., 1993a; 1993b

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Thurman, E.M., 1993a; 1993b

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Furness, L.W., and others, 1964

Jordan, P.R., 1978a; 1984; 1986b

High Plains

Heimes, F.J., and Luckey, R.R., 1980; 1983

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Dague, B.J., 1985b; 1986b; 1987b

Dugan, J.T., and others, 1990

Gutentag, E.D., and others, 1984

Helgesen, J.O., 1990

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Helgesen, J.O., and Rutledge, A.T., 1989

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Waterman, W.D., 1952

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Hathaway, L.R., and others, 1975; 1977; 1978; 1979; 1981
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Lindgren, R.J., 1982

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Kume, Jack, 1984 Kume, Jack, and Spinazola, J.M., 1983

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Waterman, W.D., 1952

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Myers, N.C., and Bigsby, P.R., 1989; 1990
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Falwell, Ronald, and others, 1990 Heck, B.A., and others, 1992 Helgesen, J.O., and others, 1993 Myers, N.C., and Bigsby, P.R., 1989; 1990 Myers, N.C., and others, 1993 Rasmussen, P.P., 1994 Rasmussen, P.P., and others, 1994

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Jordan, P.R., and Hart, R.J., 1985

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McElwee, C.D., 1977

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Wolock, D.M., 1993a

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10701 1070 1000 10001 1001 1001 1001

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Bevans, H.E., 1980

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